

**REMARKS/ARGUMENTS**

Reconsideration and allowance of this application are respectfully requested. Currently, claims 1-12 are pending in this application.

**Request for Return of Form PTO-1449:**

On May 30, 2001, an Information Disclosure Statement (IDS) including a Form PTO-1449 was filed in the present application. As of the present date, however, a copy of the fully initialed and dated Form PTO-1449 has not been returned. Applicant therefore respectfully requests that the Form PTO-1449 be fully initialed and dated as an indication that the cited references have been fully considered. For the Examiner's convenience, Applicant has submitted a fresh copy of the Form PTO-1449.

**Priority Document:**

Applicant notes with appreciation the acknowledgement of Applicant's claim for foreign priority. The Office Action notes that a certified copy of the foreign priority document has not been received by the U.S. Patent Office. Enclosed herewith is a copy of Form PCT/IB/304 which confirms receipt of the priority documents by the IB. Applicant has thus properly provided a certified copy of the priority document to the IB.

**Title:**

A new title descriptive of the invention has been provided. Applicant therefore requests that the objection to the title be withdrawn.

**Abstract:**

A new abstract has been provided which does not include the recitation of “the same.” Applicant therefore respectfully requests that the objection to the abstract be withdrawn.

**Claim Objection:**

Claim 1 was objected to because of various informalities. The elements of claim 1 each has a proper antecedent basis. Applicant has rewritten claim 1 so that it is in traditional U.S. form. Applicant thus submits that claim 1 is in proper form. Applicant therefore respectfully requests that the objections to claim 1 be withdrawn.

**Rejections Under 35 U.S.C. §102 and §103:**

Claims 1, 3, 7-9 and 11 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Virgile (U.S. ‘726). Applicant respectfully traverses this rejection.

For a reference to anticipate a claim, each element must be found, either expressly or under principles of inherency, in the reference. Virgile fails to disclose each element of the claimed invention. For example, Virgile fails to disclose “a) obtaining a list of receiver identifiers, said list corresponding to the set of recipients to which said data block is to be sent; [and] b) examining said one or more directories to find a multicast-address corresponding to said list of receiver

identifiers obtained in step a),” as required by independent claim 1 and its dependents. Independent claim 9 and its dependents require similar features.

The present invention relates to operating a transmitter to transmit data blocks over a multicast-capable network. In exemplary embodiments of the invention, a computer P (see Fig. 1) may transmit news articles relating to a specific subject, such as golf, to various recipients. The computer P does so by examining a directory such as the one illustrated in Fig. 6, which stores a list of receiver identifiers corresponding to the receivers that subscribe to golf related news articles. In this example, the list corresponding to golf news contains receiver identifiers C1, C2 and C3 (see the first entry in the directory of Fig. 6). This list of receiver identifiers in the directory has a corresponding multicast-address of 229.274.1.27 (see IP address column in Fig. 6). The golf news data to be transmitted is addressed with this IP address and transmitted over the network. As the IP address used corresponds to receivers C1, C2 and C3, the golf news data is only received by the intended recipients who have subscribed to the service. Claim 1 defines requires obtaining a list of receiver identifiers and using the list to find a corresponding multicast-address with which to address and transmit a data block.

Virgile describes a method for routing multicast packets over a network using a bridge. Specifically, routing only occurs over segments on the routes to the recipients of the multicast group, and avoids segments that are not in route.

The method of Virgile relies on a bridge using a multicast forwarding table, such as the one illustrated in Figure 4, which is constructed before routing occurs. The table includes a multicast destination address field (212, 222, 232...) and an I/O interface field (214, 224, 234...). The I/O interface field contains entries for the I/O interfaces that are to be used for forwarding a multicast packet.

The routing performed by the bridge using the multicast forwarding table is illustrated in Fig. 6 and described in col. 10, line 43 to col. 11, line 50. A multicast message packet is received in step S60 of Fig. 6. The multicast message packet will contain a multicast destination address. In step S18, this multicast destination address is used as an index to retrieve a corresponding entry from the multicast forwarding table of Fig. 4. In step S20, the bridge retransmits the multicast message packet from only those I/O interfaces indicated in the corresponding table entry. Retransmission of multicast messages is therefore limited to the specific I/O interfaces specified in the multicast forwarding table, which reduces the network segments along which multicast messages are transmitted.

Virgile fails to disclose step a) followed by step b) of claim 1. Specifically, Virgile fails to disclose “examining said one or more directories to find a multicast-address corresponding to said list of receiver identifiers obtained in step a)” as defined in step b) of claim 1. In exemplary embodiments of the present invention, a computer P uses a directory to obtain a multicast-address with which

to address and transmit a data block over a network. In contrast, Virgile already receives a data block with a multicast address and uses the multicast address in conjunction with a table to restrict routing of the data block in the network.

Similar comments apply to independent claim 9 and its dependents.

Since Virgile fails to disclose step a) and b) of claim 1, Virgile also fails to disclose the features of step c) and d), which are dependent on steps a) and b).

With reference to the specific features in Virgile that the Office Action has identified as allegedly disclosing limitations required by claim 1, the Office Action has incorrectly identified features from different embodiments of Virgile and pieced them together to allegedly arrive at the claimed invention. In particular, the Office Action appears to have combined features from the method used by a host to join a multicast group, where a join packet is transmitted from a host (see Fig. 5), with features from the method where a multicast data blocks are transmitted to a host (see Fig. 6).

Exemplary embodiments of the present invention are advantageously used to transmit news articles to specific subscribers without the need for an individual multicast-address per news group. Thus, in exemplary embodiments of the present invention, an identifier corresponding to the type of data, such as the type of news, can be used to identify a list of receivers and therefore a multicast-address with which a data block must be transmitted. Virgile only describes how data blocks with an existing multicast-address may be selectively routed in a

network rather than how a multicast-address may be obtained and then subsequently used for addressing and transmitting a data block. There is no teaching in Virgile of how or why modifications would be made to achieve advantages provided by the present invention.

Dependent claim 3 further relates to the use of site level forwarding computers C1, C2 and C3. In particular, claim 3 requires “determining that a general data block is to be sent to recipients included in one or more of a selected plurality of said lists.” The “selected plurality of lists” correspond to the lists held at the site level computers (see, e.g., Figs. 5A-5C in the present application), which are then consolidated by the main computer P into a directory (see Fig. 6) by “unifying said selected plurality of lists to find a unified list of receiver identifiers” as further required in step b) of claim 3.

While the Office Action alleges that Fig. 4 of Virgile discloses the features of claim 3, Fig. 4 is merely a table and does not disclose any specific steps as defined in claim 3. If the Office Action maintains the position that the table of Fig. 4 discloses the steps of claim 3, Applicant respectfully requests that the next Office Action clarify specifically how this is accomplished.

With reference to dependent claim 7, Virgile fails to disclose a plurality of group directories as defined. The Office Action previously equated each row of the table in Fig. 4 of Virgile to “a list” as defined in the claims. The table itself can therefore only represent a single directory, which is defined as storing a

“plurality of lists” in claim 1. As such, Fig. 4 of Virgile cannot also disclose “a plurality of group directories” as further defined in claim 7.

Accordingly, Applicant submits that claims 1, 3, 7-9 and 11 are not anticipated by Virgile and respectfully requests that the rejection of these claims under 35 U.S.C. §102(b) be withdrawn.

Claim 2 was rejected under 35 U.S.C. §103 as allegedly being unpatentable over Virgile in further view of Takiyasu et al (U.S. ‘947, hereinafter “Takiyasu”). Applicant respectfully traverses this rejection. Since claim 2 depends from claim 1, all of the comments made above with respect to Virgile as applied to claim 1 apply equally to claim 2. Takiyasu fails to remedy the above described deficiencies of Virgile.

Moreover, with respect to dependent claim 2, Takiyasu merely suggests resending the multicast information using “the same retransmitting operation as mentioned above” (col. 7, lines 4-5). The operation described “above” is a standard multicast operation. Thus, Takiyasu suggests detecting a failed transmission and resending the same multicast message to the same recipients. There is no suggestion in Takiyasu of “analysing said indications to generate a list of receiver identifiers, each receiver identifier in said list identifying a recipient that did not successfully receive said earlier data block” as defined in step b) of claim 2. The list of receiver identifiers is used in exemplary embodiments of the

present invention to resend the multicast data block to only those receivers identified by the identifiers, thus reducing the amount of resend traffic.

Accordingly, Applicant respectfully requests that the rejection of claim 2 under 35 U.S.C. §103 be withdrawn.

Claims 4-6 and 10 were rejected under 35 U.S.C. §103 as allegedly being unpatentable over Virgile in view of Reams (U.S. '793). Applicant respectfully traverses this rejection. Since claims 4-6 depend at least indirectly from independent base claim 1 and claim 10 depends from independent base claim 9, Applicant submits that the above comments made with respect to Virgile as applied to base claims 1 and 9 apply equally to claims 4-6 and 10. Reams fails to remedy the above described deficiencies of Virgile. Moreover, Applicant submits that one of ordinary skill in the art would not have been motivated to combine the teachings of Reams and Virgile. Reams is directed to controlling cable or TV broadcasts on an individual basis, and not to transmitting data blocks in a multicast-network as in Virgile. Applicant therefore submits that Virgile and Reams are non-analogous art and thus the combination thereof is improperly based on hindsight.

Accordingly, Applicant respectfully submits that claims 4-6 and 10 are not "obvious" over Virgile and Reams and respectfully requests that the rejection of these claims under 35 U.S.C. §103 be withdrawn.



***EVANS et al.***  
***Application No. 09/763,325***  
***September 10, 2004***

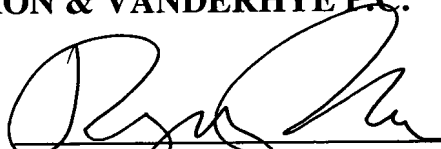
**Conclusion:**

Applicant believes that this entire application is in condition for allowance and respectfully requests a notice to this effect. If the Examiner has any questions or believes that an interview would further prosecution of this application, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

**NIXON & VANDERHYE P.C.**

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**INFORMATION DISCLOSURE**

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APPLICANT

EVANS et al

FILING DATE

**GROUP**

February 21, 2001

2611

## U.S. PATENT DOCUMENTS

[illegible]

## FOREIGN PATENT DOCUMENTS

[illegible]

**OTHER DOCUMENTS (including Author, Title, Date, Pertinent pages, etc.)**

OTHER DOCUMENTS (including Author, Title, Date, Source, etc.)			
		Martin et al, "Overview of the NBBS Architecture", IBM SYSTEMS JOURNAL, Vol. 34, No. 4, 1995 (attached copy downloaded from <a href="http://www.google.com">www.google.com</a> )	
		L. Deigrossi et al, "Internet Stream Protocol Version 2 (ST2) Protocol Specification - Version ST2+", Internet Engineering Task Force Request for Comments (RFC) 1819, August 1995 (especially section 4.5.3.)	
		Tanenbaum, "Computer Networks", 3 <sup>rd</sup> Edition, 1996, page 58 and pages 489-492	
*Examiner		Date Considered	

Date Considered

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 509; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to application.

## PATENT COOPERATION TREATY

PCT

NOTIFICATION CONCERNING  
SUBMISSION OR TRANSMITTAL  
OF PRIORITY DOCUMENT

(PCT Administrative Instructions, Section 411)

From the INTERNATIONAL BUREAU

To:

NASH, Roger, William  
BT Group Legal Services  
Intellectual Property Dept.  
Holborn Centre, 8th floor  
120 Holborn  
London EC1N 2TE  
ROYAUME-UNI

RECEIVED

Date of mailing (day/month/year) 25 November 1999 (25.11.99)	
Applicant's or agent's file reference A25570 WO	IMPORTANT NOTIFICATION
International application No. PCT/GB99/03114	International filing date (day/month/year) 17 September 1999 (17.09.99)
International publication date (day/month/year) Not yet published	Priority date (day/month/year) 18 September 1998 (18.09.98)
Applicant BRITISH TELECOMMUNICATIONS PUBLIC LIMITED COMPANY et al	

- The applicant is hereby notified of the date of receipt (except where the letters "NR" appear in the right-hand column) by the International Bureau of the priority document(s) relating to the earlier application(s) indicated below. Unless otherwise indicated by an asterisk appearing next to a date of receipt, or by the letters "NR", in the right-hand column, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).
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<u>Priority date</u>	<u>Priority application No.</u>	<u>Country or regional Office or PCT receiving Office</u>	<u>Date of receipt of priority document</u>
18 Sept 1998 (18.09.98)	98307623.3	EP	23 Nove 1999 (23.11.99)

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